Information

Allergy Practice in California

Diagnostic and Therapeutic Methods Used by Allergists and Otolaryngologists

ABBA I. TERR, MD
San Francisco

ALEX WEISSKOPF, MD
San Mateo, California

ROBERT A. SPARACINO
San Francisco

IN 1982 the Scientific Board of the California Medical Association (CMA) established an interspecialty subcommittee to assist the Scientific Advisory Panel on Allergy and the Scientific Advisory Panel on Otolaryngology/Head and Neck Surgery in responding to medical practice questions on a variety of controversial methods of diagnosis and treatment of allergic conditions. The subcommittee of three allergists and three otolaryngologists, board certified in their respective specialties, was charged with identifying the common ground and defining the differences between the two specialties on such questions as cytotoxic testing for food allergy, sublingual testing and treatment for food allergy, endpoint titration for the diagnosis of inhalant allergy, the radioallergosorbent test (RAST), provocative-neutralization techniques for food allergy and autogenous urine injections for allergy therapy. The subcommittee's work was an extension of an informal dialogue begun by the advisory panels in 1979. The opinions subsequently recommended by the subcommittee on these questions were reviewed and endorsed by the parent advisory panels and received final approval from the CMA Commission on Quality Care Review.

To prepare for its in-depth evaluation of the issues cited, the subcommittee felt it essential to determine the frequency with which some of the more controversial techniques were used. It was apparent at the outset, however, that no such information about the actual use of diagnostic and therapeutic methods by practicing physicians existed; the subcommittee therefore surveyed CMA members for this purpose.

Methods

A questionnaire was prepared requesting specific information about the frequency of the use of various methods, both established and controversial, in the diagnosis of allergic disease and in allergen immunotherapy. It was mailed in February 1983 to all members of the California Medical Association who designated their specialty as either allergy or otolaryngology/head and neck surgery. This survey included questions about training, board certification and practice characteristics.

Questions about each test and treatment procedure were designed to elicit an estimate of the percent of new patient allergy evaluations in which the test or treatment was used.

Results

Questionnaires were sent to 201 allergists and 586 otolaryngologists; replies were received from 103 (51%) and 186 (32%), respectively. In all, 79 otolaryngologists indicated that they do not treat allergic disease, so the results were based on the remaining 107 (18%) otolaryngologists.

Allergy Training and Board Certification

Residency, fellowship, preceptorship training and board certification of respondents are shown in Table 1. Of the allergists, 83.5% had one or more years of residency in either internal medicine or pediatrics and 71.8% had postresidency allergy fellowship training. Of the otolaryngologists, 94.4% had one or more years of residency in that specialty and 4.7% reported allergy fellowship training.

Regarding board certification, 75.7% of the allergists responding were certified by the American Board of Allergy and Immunology, a conjoint board of the American Board of Internal Medicine and the American Board of Pediatrics. Among the otolaryngologists, 97 (90.7%) were board certified in that specialty, but only one in allergy and immunology.

TABLE 1.—*Training and Board Certification of 103 Allergy and 107 Otolaryngology/Head and Neck Surgery (Oto/H&N) Respondents*

	Allergy Number (%)	*Oto/H&N Number (%)*
Residency and Fellowship		
Residency (1 or more years)		
Family Practice	4 (3.9)	1 (0.9)
Pediatrics	38 (36.9)	1 (0.9)
Internal Medicine	48 (46.6)	2 (1.9)
Oto/H&N	6 (5.8)	101 (94.4)
Other	7 (6.8)	5 (4.7)
Allergy Fellowship	74 (71.8)	5 (4.7)
Preceptorship	11 (10.3)	20 (19.4)
Board Certification		
American Board of		
Family Practice	2 (1.9)	0 (0.0)
Internal Medicine	22 (21.4)	0 (0.0)
Pediatrics	26 (25.2)	0 (0.0)
Oto/H&N	4 (3.9)	97 (90.7)
Allergy and Immunology	78 (75.7)	1 (0.9)
Other	0 (0.0)	2 (1.9)

(Terr AI, Weisskopf A, Sparacino RA: Allergy practice in California—Diagnostic and therapeutic methods used by allergists and otolaryngologists [Information]. West J Med 1985 Aug; 143:276-279)

A report of the Interspecialty Subcommittee of the Scientific Advisory Panels on Allergy and Otolaryngology/Head and Neck Surgery of the Scientific Board of the California Medical Association. Drs Abba I. Terr and John A. Metheny were co-chairs of the subcommittee; the other members were Roger M. Katz, MD; W. Hugh Powers, MD; Alex Weisskopf, MD, and Ned J. Whitcomb, MD. Mr Sparacino is manager of the Department of Specialty Sections and Scientific Programs, California Medical Association.

Reprint requests to Robert A. Sparacino, Department of Specialty Sections and Scientific Programs, California Medical Association, 44 Gough Street, San Francisco, CA 94103.

Practice Characteristics

On the average, the ratio of adults to children in allergy practice is 2:1 for allergists and 4:1 for otolaryngologists. There is a large variation within individual practices, and a few physicians restrict their allergy practice to a particular age group. For allergists, the mean number of new cases per week was 8.7 ± 5.4; for otolaryngologists it was 4.9 ± 5.1.

TABLE 2.—*Type of Disease Seen in Allergy Practice (% of New Allergy Patients)**†

	Allergy	Oto/H&N
Nasal	54.8 ± 18.5	82.5 ± 20.9
Asthma	31.2 ± 14.5	8.5 ± 12.0
Food allergy	8.4 ± 10.6	11.6 ± 14.9
Urticaria	6.1 ± 4.4	4.3 ± 5.9
Gastrointestinal	4.3 ± 8.3	3.5 ± 5.0
Chemical allergy	3.5 ± 7.2	3.1 ± 3.4
Other	4.6 ± 5.8	8.2 ± 13.6

Oto/H&N = otolaryngology/head and neck surgery

*Mean ± 1 standard deviation.

†Total percentage may be greater than 100% because some patients present with more than one disease.

Table 2 shows that nasal allergy is the most common type of disease seen by both groups, constituting approximately 55% of the cases seen by allergists and 83% by the otolaryngologists. Allergists see a considerably higher percentage of patients with asthma.

Diagnostic Tests

The immediate hypersensitivity skin test in which a cutaneous wheal and erythema appears 15 to 20 minutes after application of an allergen is well established in allergy diagnosis. Despite the long tradition of the test, different methods for applying the allergen are used in clinical practice. Table 3 shows the respondents' use of the prick (puncture), scratch, single-dose intracutaneous (intradermal) and serial endpoint titration methods for diagnosing inhalant and food allergy.

The RAST detects specific IgE antibodies in serum. Table 4 shows the usage of RAST in the diagnosis of allergy to inhalants, foods and other allergens such as venom, drugs or occupational allergens. Table 4 includes data on the use of total serum IgE in diagnosis.

Controversial methods are used by only a handful of the respondents, as shown in Table 5. The cytotoxic test is based

TABLE 3.—*Diagnostic Tests for Initial Workup—Skin Test Method**

		Percentage of Patients					
Test	*Specialty*	*0%*	*1-5%*	*6-25%*	*26-50%*	*51-75%*	*76-100%*
Prick test—inhalants	Allergy	23	6	2	5	14	50
	Oto/H&N	77	6	5	5	1	6
Prick test—foods	Allergy	33	16	17	10	5	19
	Oto/H&N	87	7	1	1	0	4
Scratch test—inhalants	Allergy	56	5	5	5	6	23
	Oto/H&N	73	5	7	3	4	8
Scratch test—foods	Allergy	63	7	8	6	7	9
	Oto/H&N	92	3	3	1	0	1
Intracutaneous—inhalants	Allergy	10	5	7	21	23	34
	Oto/H&N	68	12	7	1	7	5
Intracutaneous—foods	Allergy	52	14	9	6	5	14
	Oto/H&N	88	4	5	0	1	2
Endpoint titration—inhalants	Allergy	89	3	1	2	1	3
	Oto/H&N	41	13	7	3	5	31
Endpoint titration—foods	Allergy	92	4	0	0	3	0
	Oto/H&N	84	12	3	0	0	1

Oto/H&N = otolaryngology/head and neck surgery

*Figures are percent of respondents in each specialty reporting frequency of usage of each method identified in the first column. Total percentage may diverge from 100% because of rounding errors.

TABLE 4.—*Diagnostic Tests for Initial Workup—In Vitro Methods**

		Percentage of Patients					
Test	*Specialty*	*0%*	*1-5%*	*6-25%*	*26-50%*	*51-75%*	*76-100%*
RAST—inhalants	Allergy	52	40	5	1	1	1
	Oto/H&N	39	30	12	5	6	9
RAST—foods	Allergy	48	43	6	1	1	1
	Oto/H&N	54	23	12	2	4	5
RAST—other	Allergy	61	30	5	1	1	1
	Oto/H&N	76	15	5	0	2	2
Serum IgE	Allergy	18	46	16	5	6	8
	Oto/H&N	37	30	9	6	8	10

Oto/H&N = otolaryngology/head and neck surgery, RAST = radioallergosorbent test

*Figures are percent of respondents in each specialty reporting frequency of usage of each method identified in the first column. Total percentage may diverge from 100% because of rounding errors.

on changes in leukocyte morphology after in vitro exposure to food extracts. Provocation-neutralization techniques consist of exposing a patient to a test substance to observe the presence of subjective symptoms over a subsequent ten-minute period. The testing is done by either injecting a substance intracutaneously or subcutaneously, or by applying a drop sublingually. Measurement of wheal diameter following intracutaneous injection and the occurrence of objective physical findings are also noted at times, but subjective symptoms are the primary indications of a positive result.

Immunotherapy

Treatment of allergic disease usually requires a broad-based program of environmental precautions or restrictions, symptomatic medication and, in some cases, immunotherapy consisting of repeated injections of allergenic extracts. The questionnaire focused only on methods used for immunotherapy. Repeated subcutaneous injections for treatment of inhalant allergy is the preferred method used by both allergists and otolaryngologists and frequency of use appears to be similar. Injections to treat food allergy in addition to inhalant allergy is not in common use by these physicians (Table 6).

Sublingual administration of drops of inhalant, food or chemical extracts has been advocated as an alternative method of treating allergy. It is considered controversial because no scientific studies have been published showing that it is effective. It is clear from Table 6 that very few of the allergists and otolaryngologists surveyed in California use sublingual therapy.

Discussion

To our knowledge this is the first survey of allergy practice by allergists and otolaryngologists. It was restricted to CMA members, so the results may or may not reflect practices of nonmembers or of physicians in other specialties who include allergy in their practice.

Among the respondents, more than 75% of the allergists were certified by the American Board of Allergy and Immunology and more than 90% of the otolaryngologists were certified by the American Board of Otolaryngology/Head and Neck Surgery, indicating that the results of this survey reveal allergy practice methods used by physicians with documented proficiency in their specialties.

Skin testing is clearly the method favored by both groups of specialists for identifying specific allergens. The immediate wheal-and-erythema skin test procedure is well established as a reliable and useful test for detecting specific IgE-mediated allergies, and its rationale is consistent with current concepts of the pathophysiology of immediate hypersensitivity allergic reactions. Nevertheless, the procedure itself has never been standardized so various techniques are in use today. In general, for routine testing purposes allergists use a two-step procedure in which a cutaneous (prick or scratch) test is applied first, and for those allergens giving

TABLE 5.—*Diagnostic Tests for Initial Workup—Controversial Methods**

Test	Specialty	Percentage of Patients 0%	1-5%	6-25%	26-50%	51-75%	76-100%
Cytotoxic test—foods	Allergy	94	1	1	1	1	1
	Oto/H&N	85	10	3	0	0	1
Intracutaneous provocation-neutralization	Allergy	91	3	1	1	4	0
	Oto/H&N	86	6	4	0	0	3
Subcutaneous provocation-neutralization	Allergy	95	2	1	0	1	0
	Oto/H&N	91	1	2	0	0	5
Sublingual provocation-neutralization	Allergy	94	2	1	2	1	0
	Oto/H&N	92	0	0	0	3	4

Oto/H&N = otolaryngology/head and neck surgery

*Figures are percent of respondents in each specialty reporting frequency of usage of each method identified in the first column. Total percentage may diverge from 100% because of rounding errors.

TABLE 6.—*Immunotherapy Treatment Method**

Test	Specialty	Percentage of Patients 0%	1-5%	6-25%	26-50%	51-75%	76-100%
Subcutaneous—inhalants	Allergy	2	3	8	19	19	49
	Oto/H&N	10	4	22	8	9	47
Subcutaneous—inhalants and foods	Allergy	91	2	2	2	0	2
	Oto/H&N	78	7	6	2	2	4
Sublingual—inhalants	Allergy	95	2	2	0	0	1
	Oto/H&N	85	7	3	2	0	3
Sublingual—inhalants and foods	Allergy	92	6	2	0	0	0
	Oto/H&N	86	9	4	0	0	1
Sublingual—inhalants, foods and chemicals	Allergy	96	2	1	0	1	0
	Oto/H&N	91	6	2	0	1	0

Oto/H&N = otolaryngology/head and neck surgery

*Figures are percent of respondents in each specialty reporting frequency of usage of each method identified in the first column. Total percentage may diverge from 100% because of rounding errors.

negative reactions by this method, an intracutaneous test using a single standard concentration of extract is then applied. Serial endpoint titration is the method preferred by otolaryngologists. It consists of intradermal testing of each allergen serially at increasing concentrations until a positive (endpoint) test occurs. Our survey showed that the skin testing procedures are used by both allergists and otolaryngologists frequently in the diagnosis of inhalant allergy, but much less frequently for food allergy.

RAST, although favored more by the otolaryngologists, plays a small role in practice, since about 80% of the otolaryngologists and 90% of the allergists use this test rarely or not at all for the diagnosis of inhalant and food allergy. There is a small group of otolaryngologists who use this technique frequently.

Patients with atopic allergy usually have high circulating levels of total IgE in the serum. Because total IgE measurement affords no information about specific sensitivities, it is not surprising that fewer than 20% of physicians in either specialty order this test for most of their patients.

The controversial diagnostic techniques of cytotoxic testing and provocative-neutralization testing are not used to any significant extent by either specialty surveyed.

Treatment methods for allergen immunotherapy are similar. Subcutaneous injections are used to immunize for inhalant allergy, and very few practitioners report using immunotherapy to treat food allergy. Questions about dosage, frequency of injections, duration of treatment and patient selection criteria were not addressed in this questionnaire. The sublingual method of immunotherapy cannot be considered a significant part of the armamentarium of these physicians.

Conclusion

CMA member allergists and otolaryngologists were surveyed in 1983 to determine the methods they use for the diagnosis and treatment of allergy. These specialists generally employ similar methods in the diagnosis and treatment of allergic disease. Both groups rely on skin testing to identify specific allergens and both use a form of "titration." The otolaryngologists prefer the more formal serial intracutaneous endpoint titration method, whereas the allergists use a simplified two-step cutaneous-intracutaneous procedure. RAST is more likely to be used selectively than routinely, as is total serum IgE. The controversial diagnostic techniques of cytotoxic testing and provocation-neutralization are clearly out of favor by both groups of specialists.

Medical Practice Question

EDITOR'S NOTE: *From time to time medical practice questions from organizations with a legitimate interest in the information are referred to the Scientific Board by the Quality Care Review Commission of the California Medical Association. The opinions offered are based on training, experience and literature reviewed by specialists. These opinions are, however, informational only and should not be interpreted as directives, instructions or policy statements.*

YAG Laser for Posterior Lens Capsules

QUESTION:

Is the use of the neodymium YAG laser for opening (disruption) posterior lens capsules after extracapsular cataract extraction considered accepted medical practice or is it considered investigational?

OPINION:

In the opinion of the Scientific Advisory Panel on Ophthalmology, the use of the neodymium YAG laser to open (disrupt) posterior lens capsules after extracapsular extraction is considered established medical practice. When used in the anterior segment of the eye, this procedure has been reported to be safe and effective, with an extremely low rate of complications. Indeed, because it avoids infection and other complications of conventional ocular surgery, this technique is considered a preferred alternative to surgical discission.

Although the procedure itself is considered accepted practice, not all YAG lasers have been approved by the Food and Drug Administration (FDA) for this purpose. Their use, therefore, is investigational.